

AGC/WSDOT Structures Team Minutes

January 28, 2005

Members in Attendance

Attendees:	Company	Phone	E-mail
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The meeting began at 9:00 AM. Meeting minutes of November 19, 04 were reviewed with minor typo revisions. Members welcomed Kevin Parrish of Hamilton construction back to the team.

New Vibration Limits Specification-Test Results

Jim reported that a field test is scheduled at Wilder's job site for the Feb. 14.

Action Item: Jim will update and recommend a final version of vibration Specs at the next meeting.

Dowel Embedment Length-Discussion Topic #23

Jim indicated that his research into dowel embedment depth confirms earlier findings by Jugesh. The depth of dowels indicated in the Bridge Design Manual take into account vibration and creep in resin under sustained loading. A discussion concerning certain non vibratory application of dowels such as barrier dowels into retaining walls was discussed. Jugesh is uncomfortable making any changes to the current practice.

Action Item: No further discussions regarding this topic will be needed.

Pile Driving Tolerances-Std. Specs. 6-05.3(11) A

Virgil handed out his proposal for revisions to this section of the Specs. The team members discussed and critiqued it. Changes suggested were:

- Change the wording “cut off”
- Clarify 2” tolerance is horizontal
- Give dimensions in inches
- Other editorial changes

Action Item: Virgil will revise and present this Spec. at the February meeting.

Curing Boxes – Std. Specifications 6-02.3(5)H

Mo handed out the latest revisions to this Spec proposed through the WACA team. Curing boxes meeting the requirements of ASTM C31 maintaining curing temperatures between 60F – 80F for concrete cylinder initial curing will be required at all job sites. Some of the comments were:

- Will there be a QPL for the approved curing boxes
- Specs must provide level field for bidders
- Will there be waivers for low risk areas
- Noise concerns at nights in noise restricted areas
- What is max. distance the boxes can be moved while cylinders are curing

Action Item: Mo will coordinate for answers for the next meeting

Grout Pad Installation -Std. Specs. 6-02.3(25)N

Mo handed out this Spec. and proposed that the fourth paragraph from the end be deleted. The deleted portion deals with placement and construction of grout pads that is already part of the 6-02.3(20) and is redundant. One suggestion to also revise the title to read “pre-cast segments” in lieu of “girder” was discussed.

Action Item: Mo will place this revision in the April amendments. Mo will also get “grout pad” in the Specs index.

Tall Abutment Wall Preferred Geometry

Mo handed out two proposals for preferred geometry of tall abutments: one with sloped back face and the other with plumb faces and a step at certain elevation where the wide abutment width is no longer needed. The unanimous option was the plumb wall faces. The Contractors cited the following reasons:

- Uniform use of snap tie lengths
- Ease of concrete placement

The higher concrete cost for the plumb faced option must also be taken into account. Also, this concept can apply to the design of tall retaining walls as well.

Action item: Jugesh will conduct a parametric study to determine the material cost difference between the two options for different wall heights. The Contractors will then determine labor savings.

General Special Provisions & Bridge Special Provisions, Prioritization for Future Review

The members voted for the 7 potential topics in the Specials and prioritized for future review as follows:

- Removing Portions of Exist. Bridge – 10 votes
- Seismic retrofit – 9 votes
- Work Access – 7 votes
- Expansion Joints – 4 votes
- Polyester & Modified Concrete Overlay – 2 votes
- Working Drawings – 1 vote
- Bridge Bearings – 0 vote
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Action Item: The team will review the Specials in order of priority

Contour Crafting

Mo showed a video of rapid house construction using fast setting concrete and use of robotics invented by professor Khoshnevis at the University of Southern California. This method of construction may have promising application for construction of retaining walls.

Action Item: No further discussions are needed

Wall Architectural Features

Two years ago Alex Young made a proposal to the team to place feature strips every 10 vertical feet to avoid the need for use of neoprene form liners. This scheme is not preferred at all locations by Paul kinderman, WSDOT's current bridge architect. The contractors provided feedback that the cost of neoprene is currently approximately \$35 per square foot which can double the wall cost. Also, the architectural features at the Union to Jackson contract are estimated to be very costly. However, the architectural features were dictated by the local entities.

Action item: Jugesh will relay this information to the architect and designers. No further discussions are needed at this time.

New One Piece Pre-cast Tub Girders – Farwell Rd. Lessons Learned

Bob Hilmes gave a presentation of challenges encountered during the construction of pre-cast boxes at Farwell Rd. Some of the highlights:

- Splayed girders on skewed abutments complicate end diaphragm construction
- Cost of girder recesses were high and casting them were very complicated
- Girder rebars above the recesses had virtually no concrete cover
- Girder G7 rebars interfered with strands
- Lifting high strength bars interfered with stirrups
- Drain holes provided no cover over strands
- There is a need for intermediate diaphragms

Temporary shoring was used at another project (Pacific Ave.) before deck placement

Action item: No further discussions are needed

The meeting was adjourned at 12:00PM.